

# Composting With Worms

## From the Home Composting Series

In schools, offices, and homes around the country, people are learning to recycle food scraps like apple cores, banana peels, and coffee grounds into a valuable garden fertilizer using worms.

Worms! They're the world's first gardeners. They tunnel through the soil creating burrows to improve drainage and aeration, and eat decaying leaves and grass clippings, leaving behind lots of nutrient-rich castings.

There are even companies -- worm farms -- that raise worms in large containers or trenches and sell those castings to gardeners to use instead of chemical fertilizers.

We all know that smart homeowners are making their own organic amendments by composting in their backyards.

But that's just the beginning. Anyone can compost -- even in apartments -- by creating indoor compost bins using worms. These indoor compost systems are called worm boxes, and the process is called vermicomposting (vermi = worm). It's fun, easy, and very inexpensive.

To begin, build a worm

box using an old plastic bucket (approximately five gallon capacity), or find a plastic or wooden box approximately 2' x 2' x 8" deep -- sweater boxes or plastic storage "totes" work extremely well. To help the worms breathe, drill about 10 holes (1/8 - 1/4" diameter) in the sides of the container, about 1-2" above the bottom. Generally, because composting worms are "surface-feeders," it's preferable to have more surface area than depth.

Bedding is easily made by ripping up about five pounds of old newspaper (just the black and white sections) into one-inch wide strips. Soak the shredded newsprint in about two gallons of water. Drain excess water and place in the worm box so that it's still fluffy.

Now add your worms. Don't go into the garden or out after a rainstorm and try to pick them up from the sidewalk -- that's the wrong kind of worm. You'll need redworms for your box. They're special worms especially good at living indoors and eating lots of fresh fruit and vegetable peelings.

You'll need about one pound (one quart) of redworms, sometimes called Red Wigglers (biologists call them *Eisenia foetida* or *Lumbricus rubellus*). Some bait shops sell

them, but the least expensive sources are worm farms or garden supply catalogs (see below). After your worms arrive, place them in the worm box and give them a few days to get adjusted. Add a handful of garden soil to provide the grit that worms need for their gizzards -- just like chickens.

Your worm box should not be left outdoors. Many people keep them in a basement, utility room, garage, or even in a corner of their kitchen -- or even under the kitchen sink.

Feeding your worms is easy. After eating an apple or other piece of fruit, put the leftover fruit or rind into the worm box, making sure that you lift up the bedding and place the food at the bottom of the box, covering it with the damp bedding. This will prevent any odors or fruit flies.

Keep your box covered with a sheet of dark plastic. This will keep the box from drying out -- and give the worms some privacy.

\*\*\*It is essential that you always bury food scraps -- never leave them on the top of the bedding!\*\*\*

Always add food scraps to a different part of the box every time. And try different kinds of food: potato and carrot peelings, spoiled fruit or vegetables, lettuce leaves. Any kind of fruit or vegetable is okay as long as it hasn't been cooked or mixed with salad dressings, oils, meats, or fat. It's a good idea to add some fresh bedding every couple of weeks or so -- the worms also eat bedding since it's only cellulose fiber. Rip up just a few sections of newsprint and add it to the top of the

After about four-six months, the worm population will have grown remarkably. And all of the food scraps and most of the bedding will have been converted into worm castings -- or vermicompost. Take out about three-quarters of the material and use in your garden (mix into the soil). You can also use a hand-held screen (a garden sieve) to sift or separate the worms from the compost. Return worms to the box -- or just use fresh, damp bedding and add to the worm box. There are still plenty of worms left in the box to repopulate the bedding and keep your worm-recycling going.

Another harvesting technique requires that you

push all of the material into one half of the container after about three-four months, when most of the food and newspaper has broken down, and then add fresh, dampened bedding to the empty portion of the box. Only add food to the newer bedding. After about one month, the worms will have finished any remaining food and most will have migrated from the finished compost to the new bedding. You can now harvest your compost and use as above; be sure to always replace any removed compost or bedding with fresh bedding.

By worm composting, you're keeping good organic matter out of the landfill, and recycling those leftovers into free -- and chemical-free -- nutrients for your garden or houseplants, while helping to keep the world healthy and beautiful -- naturally.

To learn more about vermicomposting and worms, look for the following books in your neighborhood library: *Worms Eat My Garbage* and *Worms Eat Our Garbage*, Mary Appelhof, Flower Press, Kalamazoo, MI, 1982; *Squirmy Wormy Composters* (written for children), Bobbie Kalman, Crabtree Publishing Co., New York, NY, 1992.

### **Need Additional Help?**

For additional information and assistance, visit the DEP Composting Website: <http://compost.askDEP.com> or call

240.777.7700. Email: [help@askDEP.com](mailto:help@askDEP.com). For information on low-cost compost bins, contact the Montgomery County Division of Solid Waste Services at 240.777.6400

